IT Unit 3

Topic 2

**What is data? p 73**

1. Describe the nature of data.

Data is made up of facts and statistics. Raw facts that have no context to them, which normally cannot be understood be the person viewing them but data can be processed and converted into information which makes the data into something useful.

**What is a hypothesis?**

1. Describe what a hypothesis is.

A hypothesis is an educated guess or a prediction that you can test in a scientific way and tries to explain an observation or unexplained pattern, and is written in the of a question or an “if” or “then” statement.

1. What are the characteristics of a reasonable hypothesis?

* It should be able to generate a testable prediction.
* It should have a specific statement identifying the variables. Meaning it must identify the independent variable which causes the change and the dependent variable which is the affected factor.
* It must be testable
* It needs at least some supporting evidence or observation.
* It should be based on an observation and be limited to specific circumstances.
* Evidence should be objective, not subjective.
* It should not be vague or ambiguous.
* It is not trivial.
* It should be able to make testable prediction.
* It should be no more complicated than it need be to explain an observation.

1. Can a hypothesis be proven? Distinguish between proof, support and refutation.

NO, a hypothesis can never be proven.

A hypothesis can never be **proven** true with data: it can only ever be supported. However, any hypothesis can be refuted.